Religion and Firm Reputation Risk

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Abstract

Religion has received attention as it is reported to have a strong impact on firm decision making. To test the impact of religiosity on the reputation risk of firm we focus on cross country data that has been collected from the RepRisk database from 2007 to 2018. We find that country-level religiosity does reduce firm reputation risk while firms in a more economically developed countries have less reputation risk. Firms in more religious countries face less governance risk but more social risk. Risk aversion and motivation for ethical practice can explain the negative impact of religiosity on governance risk. On the other hand, discriminative behavior toward minority induced from more religiosity can explain the positive relation to social risk. Analyzing different dimensions of religiosity, we find belief index has significant negative impact on governance risk while practice index has positive impact on social risk. Our results show clear channel how religiosity affect ESG reputation risk. These findings would be useful for ESG based valuation and risk management.

Keywords: religion; reputation risk; corporate social irresponsibility; environmental, social and governance risk

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1: Introduction

In recent years there has been a surge of research on organizational reputation. Organizations view reputation as the most important intangible asset and as one of the priority goals (Hofstede, Van Deusen, Mueller & Charles, 2002). Reputation represents a relative assessment of firms by stakeholders compared to competing firms (Deephouse & Carter, 2005). Using role theory, Jensen, Kim & Kim (2012) define reputation as a firm's ability to meet the role expected by different stakeholders from the firm. Many benefits of having a good reputation are reported ranging from superior investor relations (Helm, 2007), better financial performance (Roberts & Dowling, 2002), lower cost of capital (Cao, Myers, Myers & Omer, 2015), and better recruitment (Turban & Cable, 2003). On the other hand, questionable behavior, termed corporate social irresponsibility, accounts for a firm's bad reputation (Kang, Germann & Grewal, 2016), which results in lower stock returns (Gloßner, 2018) and lower merger premiums (Maung, Wilson & Yu, 2020).

Most studies use signaling theory to explain the determinants of reputation (Fombrun & Shanley, 1990). Among firm-level determinants, most studies include firm performance, size, age, and advertising, charitable donation which provide signals to stakeholders (Fombrun & Shanley, 1990; Philippe & Durand, 2011). Researchers also report that reputation varies significantly based on country of origin (Newburry, 2012). The country-level variation is largely explained with institutional theory, which suggests firms in specific institutional systems tends to be homogenous as they follow common norms and rules set by surrounding institutions (DiMaggio & Powell, 2004). Economic development, institutional development, the legal system, regulatory framework, and national culture are suggested to be significant determinants of reputation (Brammer & Jackson, 2012; Deephouse, Newburry and Soleimani, 2016). Despite the interest on reputation, there are few empirical analysis on determinant of reputation on across countries (Deephouse, Gardberg & Newburry, 2019).

Among country-level factors, religion is reported to have a strong impact on firm decision making. The link between religion and a firm decision can be explained by Social Identity Theory which establishes people's preference and decisions are largely affected by group culture sharing the same identity (Tajfel, 1978; Abrams & Hogg, 2006). Azzi & Ehrenberg (1975) suggest religious people participate in religious services with salvation motive, for which they expect benefits in the afterlife. Thus, religion encourages people to be more ethical and put less value on monetary gain. Social norm theory suggests people behavior is largely influenced by social norm established by surrounding people. With this notion, legitimacy theory suggests, firms have an invisible social contract they must abide by. As more religious society would be more ethical and risk-averse, it would force firms to behave in the same manner. First, religiosity is linked to risk aversion for non-bank firms (Hilary & Hui, 2009), banks (Adhikari & Agrawal, 2016), mutual fund (Shu, Sulaeman & Yeung, 2012), and hedge fund (Gao, Wang & Zhao, 2017). Second, religion is reported to encourage ethical behavior (Longenecker, McKinney & Moore, 2004), avoiding questionable actions (Dyreng, Mayew & Williams, 2012; McGuire, Omer & Sharp, 2012). Despite so much research on religion and firm financial and investment decisions, there is little knowledge about religion and firm ESG reputation risk. To address this gap, we have analyzed how country-level religiosity affect firm ESG reputation risk.

To test the impact of religiosity on the reputation risk of firm we focus on cross country data. While a firm can act as socially responsible and socially irresponsible simultaneously (Strike, Gao & Bansal, 2006), our study focusses on reputation risk associated with irresponsible behavior. To measure reputation risk data are collected from the RepRisk database from 2007 to 2018, which reports risk index for Environmental, Social, and Governance (ESG) issues. Our sample includes firms from 29 countries over 12 years. We have analyzed factors contributing to the overall RepRisk index. We also run separate regression on individual components of RepRisk, which are environmental, social, and governance risk. To measure religiosity of country World Value Survey (WVS) data are used. Controlling for firm-level determinants like size, performance, and country-level legal origin and system, economic development, freedom of the press we show how country-level religiosity affects reputation risk. To measure religiosity, we consider eight questions from the survey related to religion. We create an overall religiosity index using principal component analysis from these eight questions. To address different dimensions of religiosity, we divide these questions into two groups. First group includes five

question addressing belief and affection for religion. These questions ask about the importance of religion in life, the importance of religion in a child, believe in God, believe in hell, and the importance of God in life. From these questions we construct religiosity belief index. Second group of questions focus on religious practice and praying in community and personal level. These questions are related to frequency of pray, frequency of attending religious service, and considering own to be a religious person. Religiosity practice index is created based on these questions.

Our results show overall religiosity is negatively related to reputation risk. A significant negative impact is found on governance risk, but results are not significant for environmental and social risk component. The coefficient for the belief index is significantly negative to governance risk but not significant to the other two components. On the other hand, the coefficient for practice is significantly positive to social risk but not significant to the other two components. Our results are robust to alternate measures of reputation risk, alternate measures of religiosity, and change in the sample. We conclude firms operating in more religious countries practice more ethical norms and reduce governance risk. In contrary, more religious countries have more instances of social discrimination and higher social risk. Discrimination toward minorities increase with more religiosity. We find no significant relation of religiosity to environmental risk. It is evident that people view environmental, social and governance risk very differently. Ethical behavior induced from religiosity only deter questionable practice related to governance issues.

Our paper contributes to the line of literature focusing on religiosity and determinant of reputation. First, this paper analyzes the impact of country-level religiosity on firm ESG reputation risk. Previous papers have mostly used county-level religiosity focusing on the US. Second, following previous papers, we made a clear contribution showing robust results that dimension of religiosity belief and practice have different and significant impacts on reputation risk. Third, while other papers have investigated reputation measuring good or general favourability, this study analyze determinant of reputation risk by using RepRisk dataset. The advantage of this measure is firms cannot dilute risk measures by doing good aggressively or manipulating disclosure. Fourth, major contribution of this paper is to investigate the determinant of environmental, social, and governance risks separately. Robust results show factors for these components vary significantly. While religiosity reduce overall ESG reputation risk, we find that

it only applies to governance risk. This paper also reports a positive impact of religiosity on reputation risk specifically by increasing social risk. Our findings have strong implications for reputation (ESG) risk management and valuation with ESG score.

The remainder of the paper is structured as follows. Section 2 explains previous literature and hypothesis development. Section 3 discusses our data and research methodologies. Section 4 includes analysis and results and Section 5 concludes the paper.

2: Literature Review

2.1.1 Reputation Risk

Firms' reputation represents how stakeholders assess firm actions on financial and non-financial accounts. Reputation depends on firms' ability to fulfill the role expected from stakeholders (Jensen et al., 2012). It depends on firms' actions relative to other firms as well as their past activities. Stakeholders formulate expectations within the institutional framework firm operates in. Previous studies mainly focus on three dimensions of reputation, for being known, for being known for something, and generalized favourability (Lange, Lee & Dai, 2011). For being known dimension, the familiarity of a firm and brand name is considered. In being known for something dimension, specific criteria like product quality, customer service is set, and firm's relative position compared to competitors is assessed to measure reputation. The generalized favourability dimension tries to capture the net effect of good and bad actions of the firm on the overall perception of stakeholders.

Many studies report reputation risk from Corporate Social Irresponsibility (CSI) has a significant impact on firm performance and value. Studies report firms' irresponsible behavior can affect firm value, investor confidence (Jo & Na, 2012; Gregory et al., 2014). Kölbel, Busch & Jancso (2017) report media coverage of CSI increases firm financial risk. Kang et al., (2016) show how CSR and CSI affect firm performance and confirm firms face negative consequences from irresponsible behavior. Price & Sun (2017) analyze Corporate Social Performance by examining the interaction between CSR and CSI and report CSI has a longer-lasting impact than CSR. Sweetin, Knowles, Summey & McQueen (2013) find that consumers are willing to punish brands with irresponsible records thus hurt the financial performance of those firms.

Oikonomou, Brooks & Pavelin (2012) report while CSR has a weak negative relation to risk, CSI has a strong positive impact on financial risk. From the perspective of market reaction, Veronesi (1999) find investors react more to bad news than good news. Thus, investor reaction

to CSI would be higher than reaction to CSR. Baloria & Heese (2018) show media coverage of corporate irresponsible issues put severe reputational costs on the firm. Using the RepRisk index our study focus solely on irresponsibility in ESG issues which is not washed out by aggressive responsibly actions.

In an explanation of determinant of reputation risk, institutional theory and legitimacy theory is very important. Reputation can be explained with signaling theory where firms decide how to build their strategy. In contrast, reputation risk is largely governed by institutions and society in which the firm operates. Return from conforming to these norms are significantly different. For instance, environmental risk does not carry the same significance as other risks (Philippe & Durand, 2011).

Despite growing interest in research on reputation, few papers have analyzed reputation in an international setting (Deephouse, Gardberg & Newburry, 2019). Using a sample of 401 corporations from 25 countries, Deephouse et al. (2016) analyze the determinants of reputation. They report that reputation has a positive relation to power distance and negative relation to masculinity and institutional development. They concluded institutional theory helps to complement signaling theory explaining reputation. Researchers also show country-level difference in culture, economic, and regulatory structure has a strong impact on firm reputation (Swoboda, Puchert & Morschett, 2016; Brammer & Jackson, 2012). Barnea & Rubin (2010) found less insider ownership leads to more CSR expenditure suggesting the presence of agency conflict between shareholders.

2.1.2 Environmental, Social and Governance (ESG) Risk

Considering the reputation risk, ESG provides a clear measure of external issues affecting firm risk. However, the impact varies significantly among these three components. Analyzing six dimensions of social performance, Bouslah, Kryzanowski & M'zali (2013) conclude employee relation, corporate governance and community negatively affect firm risk level.

Sharfman & Fernando (2008) show firm with better environmental performance get lower cost of capital. Klassen & McLaughlin (1996) report firms with positive news of environmental performance increase market value and vice versa. Nguyen (2018) analyzes Australian firms to conclude a positive relation between carbon risk and performance.

Orlitzky & Benjamin (2001) suggest reputation from the social performance is most significant in explaining firm risk. Benlemlih, Shaukat, Qiu & Trojanowski (2018) show environmental and social disclosure reduce idiosyncratic risk of the firm.

2.2.1 Religion and Firm Decision

It is well documented that religion and belief can explain individual choice and financial decision making. Using the Attraction–Selection–Attrition framework Schneider, Smith & Goldstein (2000) suggest "people make the place" and people's attributes determines organization decisions. Social norm theory explains people behavior is largely influenced by norms established by surrounding people (Cialdini, Reno & Kallgren, 1990; Goldstein, Cialdini & Griskevicius, 2008). People behave in similar manner following social norm for reward of social approval and acceptance. When most people possess strong religious belief, it establishes norm in the society (Stavrova, Fetchenhauer & Schlösser, 2013). Religiosity as norm would influence people in a society to follow acceptable behavior. Previous researches report that managers personal trait has strong impact on firm investment and financing decision making and policy formulation (Bertrand & Schoar, 2003; Malmendier, Tate & Yan, 2011; and Cronqvist, Makhija & Yonker, 2012).

Risk aversion is one characteristic largely linked to religiosity. Religious people value the afterlife termed as 'salvation motive' and thus motivated to be more ethical and less focused on monetary gain (Azzi and Ehrenberg, 1975). Hilary and Hui (2009) report religiosity leads to more risk-averse practice on the organization level. They find firms in religious counties show lower risk exposure measured by equity return and return on asset. Adhikari and Agrawal (2016) report local religiosity reduces bank risk-taking with slow asset growth and local investment.

Using data from 1996-2013 on county-level religiosity and hedge fund volatility Gao et al, (2017) conclude that local culture specifically religiosity have a negative impact on hedge fund risk-taking. Shu et al. (2012) report firms in low-Protestant or high-Catholic areas exhibit higher mutual fund return volatility. Callen & Fang (2015) show a negative link between stock price crash risk and religiosity on the county-level. El Ghoul, Guedhami, Ni, Pittman & Saadi (2012) find firms in more religious counties enjoy a lower cost of capital.

2.2.2 Religiosity and Ethical Behavior

Studies report religiosity reduces firms' questionable activities and deter unethical practices. From a survey of business managers and professionals, Longenecker et al. (2004) find respondents asserting the importance of religion possess a higher level of ethical standard. However, they find very little variation when compared among broad faith categories. Emerson & Mckinney (2010) show the importance of religion in a person's life, not just affiliation to a religion, has a significant impact on ethical behavior. From survey data, Conroy & Emerson (2004) find religiosity measured by church attendance has a significant impact on disapproving unethical scenarios in students while religion and ethics courses do not.

Grullon, Kanatas & Weston (2009) report firms headquartered in more religious counties are less likely to practice questionable activities such as backdate options, excessive compensation packages, and aggressive earnings management. McGuire et al. (2012) find local religiosity reduce financial reporting irregularities. Dyreng et al. (2012) show firms headquartered in more religious counties are less likely to have financial restatement and misrepresentation.

2.2.3 Dimensions of Religiosity

Previous researchers discuss religiosity can be viewed from different dimensions. Stark & Glock (1968) identify religiosity have five dimensions; 1) Experience dimension, referring to common experience shared from the same religion, 2) Belief dimension, referring to expectation of common belief about God, the afterlife, hell, and other issues, 3) Ritual dimension, involving public religious service attendance, 4) Devotional dimension, suggesting private religious practice, and 5) Intellectual dimension referring to expectation of being knowledgeable about one's religion. Bjarnason (1998) mention two approaches to measuring religiosity: the religious belief approach focusing on religiosity arising from the belief on a personal level, and the religious community approach focusing on the interaction with closely-knit religious community.

Different dimensions of religiosity have a very different impact on individual and organizational decision making. Weaver & Agle (2002) use the symbolic interactionist theory to analyze the link between religiosity and ethical behavior. They suggest a direct impact of belief and knowledge on ethical behavior due to ten commandment style prohibition, good Samaritan. On the other hand, they suggest a possible indirect impact on religiosity from rituals and practices on ethical practice, possibly moral values reinforced from rituals. In their paper Parboteeah, Hoegl

& Cullen (2008), distinguish between religious knowledge and practice. They conclude through more practice people would share common ideologies and moral values while knowledge of religion is not sufficient to induce ethical practice. Barro and McCleary (2003) find belief has a positive impact on economic growth while church attendance has a negative impact. They suggest belief is an output of religion and foster economic growth. Church attendance is input to religion and more attendance represent more resource used up by the religion sector resulting in less economic growth.

2.3 Hypothesis Development

While previous studies focus on signaling theory to explain reputation, institutional theory can better address variation due to country differences. Firms tend to be homogenous in response to surrounding institutions including culture, the legal system, and human traits. According to social norm theory more religiosity in a society would establish religious norm and people would behave ethically. Legitimacy theory implies firms are bound by the social norms set by society it operates in. Studies suggest religion influence people decision and thus affect firm decision as well. Religiosity is believed to promote ethical behavior and risk aversions. Considering risk aversions and ethical practices induced by religiosity we propose our first hypothesis that firms in more religious regions would have a lower reputation risk.

Hypothesis 1: Religiosity has a negative relationship with reputation risk.

As previous studies suggest different dimensions of Religiosity have differing impact, we identify two dimensions. We formulate our second hypothesis to analyze whether these two dimensions of religiosity measure vary in impact in reputation risk. Religiosity belief measures individual belief, affection for religion, and related general values. With stronger belief and affection for religion people would be more ethical (Longenecker et al., 2004; Emerson & Mckinney, 2010). With more affection for religion people behave in manner which religious teaching encourage them to. When most people have strong belief of religion, society tend to establish religious norm and follow similar behavior. Belief is sufficient to create feeling of common identity and encourage morality. We expect negative relation of belief index with risk.

Hypothesis 2a: Religiosity belief has a negative relationship with reputation risk.

Religiosity practice considers community level participation in religious service and individual praying. This measure addresses the behavioral result from religion. Practice dimension is likely to reinforce behavior with more interaction and norm effect. By participating in religious services regularly people share common behavior on community level (Parboteeah et al., 2008). Practice dimension of religiosity is linked to trust within group and less acceptability of different view (Bloom, 2012). However, people with more religious practice are likely to have less impact on economic decision. As they are using most of their resources for religious activities, their participation in firm level is reduced (Barro & McCleary, 2003). We expect religiosity practice is negatively related to ESG risk.

Hypothesis 2b: Religiosity practice has a negative relationship with reputation risk.

Reputation risk measured from ESG issues can have different impacts. Environmental, Social, and Governance have completely different sources. Governance component focuses on financial reporting, compensation issues, tax issues, bribery, and fraud. Religiosity would reduce these instances as it promotes ethical practices. Previous studies reported religiosity promotes corporate governance with better financial statement practice (Grullon et al., 2009; McGuire et al., 2012; Dyreng et al., 2012). We formulate our hypothesis religiosity would reduce governance risk.

Hypothesis 3a: Religiosity is negatively related to governance reputation risk.

Hypothesis 3b: Religiosity belief is negatively related to governance reputation risk.

Hypothesis 3c: Religiosity practice is negatively related to governance reputation risk.

On environmental components, risk aversion can reduce risks for the more religious region. Due to environmental risk firm face financial penalty. Religious people have more focus on afterlife and less concern about monetary value. Religious society would avoid environmental risk. This can encourage people to reduce environmental risk. However, firm do not put same value to environmental risk as other risk (Philippe & Durand, 2011). Alternatively speaking, if firm need to choose which risk to mitigate, environmental risk is not in top priorities. When firm face liquidity crisis for leverage, they usually cut the allocation to this risk first (Gloßner, 2018). We formulate hypothesis to test the impact of religiosity on environmental risk.

Hypothesis 4a: Religiosity is negatively related to environmental reputation risk.

Hypothesis 4b: Religiosity belief is negatively related to environmental reputation risk.

Hypothesis 4c: Religiosity practice is negatively related to environmental reputation risk.

Social risk focus on human rights, social and employment discrimination, health and safety. Religiosity promotes trust and compassion among members which can reduce social risk. As religiosity encourage ethical practice, this can also promote social values. However, religious people tend to show adversity toward minorities and working women. With practice dimension these effects grow even stronger. We hypothesize religiosity have negative impact on social risk.

Hypothesis 5a: Religiosity is Negatively related to social reputation risk.

Hypothesis 5b: Religiosity belief is Negatively related to social reputation risk.

Hypothesis 5c: Religiosity practice is Negatively related to social reputation risk.

3: Data Description

3.1 Dependent Variables

We started with RepRisk data from 2007-2018 for all available firms. RepRisk database reports a firm's exposure to reputation from quantifying specific news. It collects data daily on different languages and quantifies risk exposure using a proprietary algorithm. The RepRisk database only takes consideration of negative news related to ESG issues. RepRisk dataset systematically identify ESG risk exposure. It measures threat to reputation for firm and takes consideration for one sided risk. It detects news coverage with 28 ESG topics and 45 data tags. RepRisk screens more than 90,000 data sources including print and online media, NGOs, and Government publications in 20 languages daily. RepRisk provides a large dataset from different countries that enable us to analyze the cross-country difference. It takes an outside in approach as they measure external news rather than self reporting of firm. Benefit of this data is it is not based on firms reporting and disclosure directly thus making it less likely to be manipulated by firms (Gloßner, 2018).

Starting from 2007, the RepRisk ESG platform reports the Current RepRisk Index (RRI), Peak RepRisk Index, RepRisk Rating, Country Sector average, and proportion of component responsible for RepRisk index Governance, Environmental and Social on monthly basis. The RepRisk index is scaled from 0 to 100 with a higher score representing more exposure to reputation risk. RepRisk index of 0-25 indicate low risk, 26-50 medium risk, 51-75 high risk and 76-100 a very high-risk exposure. Whenever there is an incident of ESG related threat for firm, RepRisk index increases for the firm. The increase of index is proportionate to severity, reach and novelty of the news. Severity considers the consequences of incident (injury, death), extent of impact to one or group of people, and cause of incident (systematic, negligence). Reach is based on readership and circulation of news source as well as importance of source for specific country. Novelty considers whether incident is new or recurring for the firm, industry, and

country. After major risk incident, current RRI remains same for 14 days. If firm do not have any new ESG risk incidents, the score goes down over time.

RepRisk follow several steps in processing score. First, risk incidents are identified based on predefined topics and data tags. Then analyst team writes risk summary report following rule-based system. This summary considers severity, reach and novelty of incident. If same incident is covered in different sources, only the most influential source is taken into account. Risk incidents are included only once. Risk profile is updated if story develops, covers in more influential source, or continue even after six weeks. Before publishing, these incidents reports go quality assurance process by senior RepRisk analyst. In final stage, each incident is quantified and RepRisk index is assigned for every firm.

For comparing firms, RepRisk suggests using Peak RepRisk index which reports the highest RRI received by a firm in the past two years. Peak RRI can better capture firm's risk exposure than the current RRI. For this paper, we took December Peak RRI from every year to construct our dependent variable. For robustness tests, we include current RRI by taking the yearly average. While the RepRisk Index (RRI) only considers firm exposure, the RepRisk rating is assigned based on individual firm RRI and Country Sector Average weighting equally. Country Sector Average reports country and sector-related risk news exposure which can be proxy if the firm is missing in the RepRisk database. For RepRisk ratings we consider December ratings and create a dummy with 0 for low-risk exposure (AAA, AA, A) and 1 for medium and high-risk exposure (BBB, BB, B, CCC, CC, C, D). To further investigate the impact of religion on environmental, social, and governance risk exposure we create variable by multiplying peak RRI with percentages from specific months and years the peak RRI originated from. In Table-3.1 descriptive statistics of variables are reported for all variables. In Table-3.2 average religiosity and RepRisk index are reported by country, industry and RepRisk rating.

Table 3.1: Descriptive Statistics

RepRisk Variable	Obs	Mean	Std. Dev.	Min	Max	Median
Peak RepRisk Index	17543	13.150	16.370	0	88	0
Current RepRisk Index	17543	5.482	8.852	0	65.75	0
RepRisk Rating Dummy	17543	0.380	0.485	0	1	0
Peak Governance RepRisk Index	17496	4.979	11.003	0	72	0
Peak Environmental RepRisk Index	17496	2.226	6.554	0	47	0
Peak Social RepRisk Index	17496	4.369	9.674	0	63	0
Religiosity	Obs	Mean	Std. Dev.	Min	Max	Median
Religiosity Index	17555	-1.211	2.197	-4.460	4.907	-1.873
Religiosity Belief Index	17555	-0.977	1.925	-3.851	3.430	-1.595
Religiosity Practice Index	17555	-0.700	1.071	-2.203	4.188	-0.746
Religiosity Believe						
Important quality in Child: Religious Faith	17543	27.683	21.744	1.2	84	25
Importance of Religion in Life	17543	28.161	20.853	2.9	94.5	26
Believe in God	17543	68.118	25.925	19	100	75.9
Believe in Hell	17555	49.227	22.798	12.4	99.9	46.5
How important God is in your life	17555	44.666	26.026	10.9	98.9	41.46
Religiosity Practice						
Attend Religious Service	17543	8.997	8.554	0.5	85.2	11.5
Religious Person	17543	49.222	24.156	12.9	97	52.1
How often to you pray, Daily	17555	17.236	14.167	0	86.4	18.2
Welzel Index						
Welzel Disbelief Index	17543	0.533	0.189	0.06	0.87	0.57
Firm Level Control Variable						
Ln Total Asset	17543	7.127	1.717	-6.908	13.713	7.122
Return on Asset	17543	0.015	0.129	-0.730	0.282	0.030
Leverage	17543	0.165	0.188	0	0.877	0.110
Country Level Control Variable						
Ln GDP Per Capita	17543	10.121	1.037	7.068	10.968	10.747
Legal Origin Common Law Dummy	17543	0.513	0.500	0	1	1
Press Freedom Index	17543	29.181	23.301	0	85.5	23.49
Shareholder's Right Index	17543	3.671	1.387	2	6	4

Table 3.2: Panel A: Average Religiosity and RepRisk Index by Country (Sorted by Religiosity)

Country	Freq.	Religiosity Index	Belief Index	Practice Index	Welzel Disbelief Index	Peak RRI	Environmental RRI	Social RRI	Governance RRI
Morocco	31	4.846	3.126	4.155	0.076	2.548	1.274	1.274	0.000
Jordan	23	4.252	3.344	2.641	0.138	7.696	2.939	0.926	3.831
Ghana	8	4.103	2.995	2.889	0.093	7.875	0.000	0.000	0.000
Malaysia	241	3.099	2.430	2.030	0.226	10.763	3.392	2.801	1.132
Trinidad and	10	2.828	2.508	1.301	0.234	7.400	3.700	3.700	0.000
Turkey	66	2.285	2.023	1.042	0.268	6.091	0.000	1.561	2.879
Brazil	173	1.759	1.458	0.965	0.253	15.942	1.965	8.231	4.328
India	767	1.557	1.366	0.713	0.227	14.349	4.759	5.109	2.847
Romania	6	1.463	1.487	0.339	0.288	24.667	0.000	0.000	24.667
South Africa	274	1.139	0.916	0.639	0.240	13.799	2.124	4.806	4.887
Mexico	83	0.976	1.107	0.093	0.286	11.614	1.506	4.240	4.170
Peru	76	0.928	1.077	0.012	0.286	13.066	2.360	6.467	3.028
United States	6475	0.697	0.746	0.126	0.390	13.310	2.253	5.086	4.224
Poland	59	0.681	0.722	0.047	0.235	11.593	7.269	1.206	1.322
Cyprus	22	0.518	0.835	-0.348	0.334	9.636	0.000	5.091	2.364
Chile	80	-0.385	0.07	-0.760	0.466	14.475	5.362	5.417	2.008
Argentina	36	-0.407	-0.339	-0.279	0.431	6	0.194	0.194	5.611
Thailand	48	-1.242	-0.729	-1.060	0.408	6.667	3.000	3.333	0.333
Russia	210	-1.409	-1.188	-0.808	0.543	15.057	4.019	4.986	4.276
New Zealand	98	-1.924	-1.695	-0.923	0.626	15.418	3.739	4.821	6.042
South Korea	1260	-1.970	-1.793	-0.785	0.574	18.724	1.465	5.685	10.524
Australia	704	-2.134	-1.798	-1.144	0.633	13.216	3.713	5.040	2.786
Spain	135	-2.444	-1.933	-1.482	0.643	10.622	2.282	3.238	3.161
Germany	398	-2.750	-2.376	-1.407	0.594	19.847	3.303	6.453	9.023
Hong Kong	359	-2.872	-2.254	-1.707	0.712	13.092	2.667	2.615	6.528
Netherlands	137	-2.904	-2.858	-1.006	0.650	17.693	1.546	5.040	8.663
Japan	2892	-3.210	-2.614	-1.798	0.694	10.936	1.240	3.636	4.854
Sweden	206	-3.555	-3.155	-1.666	0.713	15.752	1.869	6.677	4.696
China	2666	-4.351	-3.804	-2.088	0.806	11.243	1.949	2.179	5.493

Table 3.2: Panel B: Average Religiosity and RepRisk Index by Industry

Industry	Freq.	Religiosity Index	Belief Index	Practice Index	Welzel Disbelief Index	Peak RRI	Environmental RRI	Social RRI	Governance RRI
Manufacturing	8055	-1.674	-1.395	-0.900	0.568	13.175	2.299	4.048	5.143
Services	2005	-0.916	-0.703	-0.585	0.514	10.732	0.827	3.973	5.174
Transportation, Communications, Electric, Gas and Sanitary service	1751	-1.008	-0.807	-0.592	0.513	14.278	3.423	4.526	5.333
Retail Trade	1601	-0.882	-0.669	-0.576	0.508	14.873	1.649	6.599	3.963
Mining	1227	-1.031	-0.809	-0.642	0.524	12.068	4.838	4.385	1.744
Finance, Insurance and Real Estate	1164	0.668	0.717	0.116	0.392	12.290	0.501	3.514	6.385
Construction	724	-1.521	-1.235	-0.859	0.538	13.733	1.299	5.017	6.918
Wholesale Trade	672	-1.172	-0.948	-0.666	0.533	12.704	2.115	3.775	4.445
Agriculture, Forestry and Fishing	201	-0.844	-0.753	-0.345	0.505	13.776	3.968	3.018	2.427
Public Administration	143	-1.747	-1.441	-0.943	0.567	27.042	3.988	9.323	12.620

Table 3.2: Panel C: Average Religiosity and RepRisk Index by RepRisk Rating

RepRisk Rating	Freq.	Religiosity Index	Belief Index	Practice Index	Welzel Disbelief Index	Peak RRI	Environmental RRI	Social RRI	Governance RRI
AAA	2402	-1.774	-1.412	-1.055	0.581	0.907	0.154	0.308	0.296
AA	5852	-0.414	-0.225	-0.404	0.476	6.201	0.986	2.053	1.630
A	2628	-1.080	-0.846	-0.655	0.523	23.941	3.692	7.930	9.785
BBB	1697	-1.191	-1.009	-0.599	0.528	23.390	3.436	7.916	10.115
BB	2711	-1.940	-1.694	-0.930	0.589	11.253	2.041	3.417	4.478
B	1603	-2.231	-1.960	-1.063	0.592	20.099	4.296	5.879	7.769
CCC	455	-1.426	-1.244	-0.692	0.539	37.079	7.324	14.628	13.496
CC	143	-1.070	-0.907	-0.557	0.491	49.196	8.640	22.416	16.331
C	48	-2.112	-1.900	-0.925	0.572	56.438	8.949	23.269	23.166
D	4	-2.757	-2.404	-1.339	0.655	65.750	6.175	17.475	42.100

3.2 Test Variables

Data on religiosity is collected from the World Value Survey (WVS) from two waves covering our dataset available in RepRisk. WVS surveys many cultural and social issues at the country-level starting from 1981. They report six waves of data from which we consider waves from (2005-2009) and (2010-2014). We take countries which are included in both waves for our study which gave us 36 countries. We set two waves data to 2009 and 2014 and set the same values for before and after these two points. Then we linearly interpolate data for the middle years (Hilary & Hui, 2009).

We select eight questions related to religion which are the importance of religion in life, the importance of religion in child quality, belief in God, belief in hell, the importance of God, frequency of attending religious service, frequency of praying, and believing own to be religious. We used the percentage of people who answered these questions as our measure of religiosity. Table 3.3 Correlation matrix show all variables have a significant and high positive correlation.

Table 3.3: Pearson Correlation Matrix for eight religion question

	Importance of Religion	Child Quality	Believe in God	Believe in Hell	Important God	Religious Service	Pray	Religious Person
Importance of Religion in Life	1							
Important quality in Child: Religion	0.970***	1						
Believe in God	0.831***	0.846***	1					
Believe in Hell	0.890***	0.891***	0.879***	1				
How important God is in your life	0.936***	0.943***	0.899***	0.917***	1			
Attend Religious Service	0.808***	0.742***	0.557***	0.680***	0.634***	1		
How often to you pray, Daily	0.929***	0.894***	0.797***	0.918***	0.889***	0.827***	1	
Religious Person	0.913***	0.932***	0.913***	0.856***	0.958***	0.623***	0.824***	1

We use Principal Component Analysis (PCA) to construct one index for overall religiosity. The first principal component explains 79% of the variation in variables and the eigenvalue is 6.32 for the first principal component while the eigenvalue is less than 1 for other components. Our principal first component can be representative of all questions. To measure different dimension of religiosity, we divide these questions into two groups. The first group consists of five questions importance of religion, god, religion as child quality, and believing in God and hell. Based on these five questions we construct a religion belief index using principal component analysis. Our first component explains 86% variations and has an eigenvalue of 4.29 and other components have less than 1. Similarly using three questions Attend religious service, praying frequency, and considering own religious person we construct religion practice index. For this first component has an eigenvalue of 2.29 (rest less than one) and explain 77% of the variation of three questions.

3.3 Control Variables

For firm-level control, we collect data from Compustat. Data of firms from the USA are collected from Compustat North America and combined by matching CUSIP to ISIN. Data from other countries are collected from Compustat Global and matched by ISIN. Data from Compustat Global are converted to the US dollar using the year-end exchange rate. We control for firm size, performance, and financial risk by using lognormal of total asset, return of asset, and long-term debt by the total asset (Deephouse et al, 2016). Due to extreme values in return on asset and leverage winsorizing was done at 1% and 99%.

For country-level control, we use several variables. We control for economy size with Ln per Capita GDP collected from the World Bank. Dummy for the legal origin from common law countries has been used as it represents the legal system (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1999). Shareholder Right Index which represents shareholder right in major decision making is collected from the World Bank doing business database. This index takes value from 0 to 6 with a higher score representing better right. As our dependent variable comes from media, press freedom index is used from Reporters Without Borders (RWB). This index scaled from 0-100 with a higher score represent less freedom of the press and more hostility against journalists. To control for time shock and industry variation dummy for time and single-digit industry have been included in all models.

3.4 Final Sample

After combining all data, we end up with 29 countries 17,543 firm-year observation. With 36.91% data USA represent most data followed by Japan and China. Although RepRisk has both listed and non-listed firms we only include firms with the International Security Identification Number (ISIN) to match with our control variable. The frequency of observations by country and industry is reported in the appendix. Table 3.4 correlation matrix shows significant correlations between country-level variables specifically with GDP per capita. We have checked the Variance Inflation Factor (VIF) which is below threshold 10 for all variables individually.

Table 3.4: Pearson Correlation Matrix for all variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
Peak RepRisk Index (1)	1												
Current RepRisk Index (2)	.861***	1											
Dummy RepRisk Rating (3)	.299***	.289***	1										
Religiosity Index (4)	0.015	.023**	-.197***	1									
Religiosity Belief Index (5)	0.013	.022**	-.227***	0.997***	1								
Religiosity Practice Index (6)	0.019*	.028***	-.111***	0.981***	0.964***	1							
Ln Total Asset (7)	0.336***	.393***	.053***	-0.025***	-0.018*	-0.042***	1						
Return on Asset (8)	0.021**	.037***	.127***	-0.054***	-0.059***	-0.037***	0.248***	1					
Leverage (9)	0.094***	.093***	-.121***	0.256***	0.262***	0.230***	0.238***	-0.076***	1				
Ln GDP Per Capita (10)	0.043***	.057***	-.751***	0.165***	0.198***	0.077***	0.116***	-0.145***	0.178***	1			
Legal Origin-Common Law (11)	0.009	-.327***	.779***	0.779***	0.790***	0.726***	-0.081***	-0.112***	0.237***	0.277***	1		
Shareholder's Right Index (12)	-0.011	.656***	-.471***	-0.524***	-0.547***	-0.449***	-0.074***	0.137***	-0.258***	-0.720***	-0.606***	1	
Press Freedom Index (13)	0.022**	.571***	-.524***	-0.471***	-0.492***	-0.403***	-0.049***	0.105***	-0.183***	-0.742***	-0.411***	0.504***	1

3.5 Empirical Models

Our base model to test hypothesis 1 starts with

$$PRRI_{(i,t)} = \alpha + \beta.RELIGIOSITY_{(j,t)} + \text{Firm Control}_i + \text{Country Control}_j + \text{Industry fixed effect} + \text{Year fixed effect} + \varepsilon_i \quad (3.1)$$

PRRI represents the peak RepRisk index for every firm-year observation. Religiosity is based on eight questions about religion. This is a country-level value with very small variation over the year. We expect β to be negative and significant as religiosity would reduce questionable practice and risk-taking. Firm control variables include total assets, return on assets, and leverage. We expect a positive sign for total assets as large size firms are more exposed to news. Performance is expected to have a negative sign while leverage is expected to have a positive sign. Country-level controls include per capita GDP, civil law dummy, shareholder right index, and press freedom index. Our peak RepRisk index is scaled between 0 and 100 with a high concentration in the lower limit. Hence, Tobit model regression is used for our analysis. To further analyze whether the source of religiosity affect results we used the following model for testing hypothesis 1a and 1b.

$$PRRI_{(i,t)} = \alpha + \beta_1.Believe_{(j,t)} + \beta_2.Practice_{(j,t)} + \text{Firm Control}_i + \text{Country Control}_j + \text{Industry fixed effect} + \text{Year fixed effect} + \varepsilon_i \quad (3.2)$$

We expect β_1 and β_2 both to be negative in response to reputation risk. To check whether the impact of religiosity differ for component of governance, environmental and social RepRisk we use tobit model with each component as dependent variable individually.

$$PRRI_{(i,t)}(\text{Governance, Environmental, Social}) = \alpha + \beta.RELIGIOSITY_{(j,t)} (Believe_{(j,t)}, .Practice_{(j,t)}) + \ + \text{Firm Control}_i + \text{Country Control}_j + \text{Industry fixed effect} + \text{Year fixed effect} + \varepsilon_i \quad (3.3)$$

We still expect a negative sign for β for all instances.

4: Results and Analysis

4.1 Main Result

We start by using religion questions individually on the peak RepRisk index. Table 4.1 shows all questions related to religion induced by belief. Coefficients are negative and significant which supports our hypothesis. Table 4.2 shows the frequency of pray and self-proclaimed religious is negative but insignificant while attending religious service is positive and significant which is against our hypothesis. The impact of religiosity from belief and practices are very different.

Table 4.1: Model with Five Religion question from Belief

Dependent Variable	Peak RepRisk Index Tobit (1)	Peak RepRisk Index Tobit (2)	Peak RepRisk Index Tobit (3)	Peak RepRisk Index Tobit (4)	Peak RepRisk Index Tobit (5)
Important quality in Child: Religious Faith	-0.096***				
	(0.029)				
Importance of Religion in Life		-0.059*			
		(0.025)			
Believe in Hell			-0.103***		
			(0.022)		
Believe in God				-0.122***	
				(0.021)	
How important God is in your life					-0.062**
					(0.019)
Ln Total Asset	6.722***	6.717***	6.714***	6.728***	6.715***
	(0.162)	(0.162)	(0.162)	(0.162)	(0.162)
Return on Asset	-11.866***	-11.813***	-11.577***	-11.372***	-11.757***
	(2.039)	(2.040)	(2.039)	(2.039)	(2.040)
Leverage	0.203	0.106	0.251	0.645	0.398
	(1.378)	(1.378)	(1.376)	(1.379)	(1.382)
GDP Per Capita	-5.940***	-4.866***	-5.089***	-5.647***	-4.940***
	(0.920)	(0.794)	(0.647)	(0.660)	(0.706)
Legal Origin-Common Law	4.767***	4.286***	4.972***	5.423***	4.412***
	(0.847)	(0.825)	(0.814)	(0.818)	(0.804)

Press Freedom Index	-0.254***	-0.220***	-0.233***	-0.308***	-0.226***
	(0.031)	(0.027)	(0.024)	(0.030)	(0.025)
Shareholder's Right Index	-1.315**	-0.761	-1.408**	-1.037**	-1.014*
	(0.487)	(0.422)	(0.436)	(0.381)	(0.431)
Constant	3.044	-11.257	-2.837	5.879	-8.520
	(12.636)	(11.034)	(9.635)	(9.801)	(10.154)
Year Dummy	Included	Included	Included	Included	Included
Industry Dummy	Included	Included	Included	Included	Included
Pseudo R^2	0.054	0.054	0.054	0.054	0.054
Observations	17543	17543	17543	17543	17543

Table 4.2: Model with Three Religion question from Practice

Dependent Variable	Peak RepRisk Index	Peak RepRisk Index	Peak RepRisk Index
	Tobit (1)	Tobit (2)	Tobit (3)
Religious Person	-0.005		
	(0.021)		
Attend Religious Service		0.169***	
		(0.039)	
How often to you pray, Daily			-0.021
			(0.029)
Ln Total Asset	6.730***	6.759***	6.727***
	(0.162)	(0.162)	(0.162)
Return on Asset	-12.022***	-12.299***	-11.981***
	(2.040)	(2.037)	(2.040)
Leverage	0.018	0.042	-0.010
	(1.386)	(1.376)	(1.377)
Ln GDP Per Capita	-3.623***	-1.794**	-3.758***
	(0.742)	(0.676)	(0.659)
Legal Origin Dummy-Common Law	3.542***	3.202***	3.605***
	(0.822)	(0.750)	(0.777)
Press Freedom Index	-0.182***	-0.124***	-0.185***
	(0.028)	(0.024)	(0.024)
Shareholder's Right Index	-0.267	0.395	-0.377
	(0.408)	(0.381)	(0.420)

Constant	-28.395**	-53.891***	-26.193**
	(10.510)	(9.462)	(9.501)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.054	0.054	0.054
Observations	17543	17543	17543

From Table 4.3 our main model shows overall religiosity index and religiosity believe index are both significant at 1%. This supports our hypothesis that countries with more religiosity have less reputation risk from ESG issues. Religiosity practice shows a positive but insignificant coefficient. It is evident that religiosity from belief has a strong impact on risk than the practice index. Among firm-level variables, total asset has a positive and significant coefficient supporting the notion that a larger firm is more exposed to risk for more visibility. Another explanation is stakeholders expect more from larger firms and they fail to meet high expectations constantly. (Phillips & Zuckerman, 2001; Deephouse & Carter, 2005). Return on asset shows a negative coefficient significant at 1% representing firm with better performance has less risk. The impact of leverage on reputation risk is not significant. Among country-level variables per capita GDP is negatively related to firm risk suggesting that economically developed countries have less ESG risk. As our dependent variable comes from the media report, negative and significant Press Freedom Index implies countries with more restrictions on media face lower ESG risk index. Shareholder Right Index shows negative significant sign as better corporate governance would lower risk. We expect a negative sign for common law legal origin, but it gives a positive and significant coefficient which can be explained by higher stakeholder expectations from the corporation in more institutionally developed countries (Jackson & Deeg, 2008; Sarstedt, Wilczynski & Melewar, 2013). From these results, we find evidence in support of Hypothesises 1 and 2a as religiosity specifically religiosity induced from belief reduce reputation risk. On the other hand, religiosity from practice does not have a significant impact on risk thus result does not support hypothesis 1b.

Table 4.3: Main Model with Peak RRI and Religiosity Index

Dependent Variable	Peak RepRisk Index Tobit (1)	Peak RepRisk Index Tobit (2)	Peak RepRisk Index Tobit (3)

Religiosity Index	-0.731**		
	(0.256)		
Religiosity Belief Index		-1.354***	
		(0.298)	
Religiosity Practice Index			0.542
			(0.458)
Ln Total Asset	6.717***	6.714***	6.740***
	(0.162)	(0.162)	(0.162)
Return on Asset	-11.744***	-11.577***	-12.164***
	(2.041)	(2.040)	(2.040)
Leverage	0.254	0.420	-0.115
	(1.380)	(1.379)	(1.379)
Ln GDP Per Capita	-5.074***	-5.938***	-2.876***
	(0.780)	(0.771)	(0.763)
Legal Origin-Common Law	4.472***	5.169***	3.145***
	(0.829)	(0.838)	(0.795)
Press Freedom Index	-0.235***	-0.269***	-0.155***
	(0.029)	(0.029)	(0.027)
Shareholder's Right Index	-0.969*	-1.415**	0.064
	(0.443)	(0.443)	(0.427)
Constant	-10.701	0.065	-37.866***
	(10.292)	(10.186)	(10.098)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.054	0.054	0.054
Observations	17543	17543	17543

Now we attempt to further investigate the impact of religiosity on component of RepRisk governance, environmental and social proportion. Table 4.4 reports religiosity has a negative coefficient significant at .1%. This finding aligns with previous papers suggesting religiosity reduces questionable financial practice (Dyreng et al., 2012, McGuire et al., 2012). The impact of religiosity on the social component is positive and significant at 5% level. Guiso, Sapienza & Zingales (2003) report that religious people tend to be more racist and show more adversity to working women. As the social component focus on issues like social discrimination, workplace discrimination it is intuitive that religiosity would have a positive impact on social RepRisk. Religiosities have no significant relation to the environmental component of the RepRisk index.

Table 4.4: Peak Component RRI and Overall Religiosity Index

Dependent Variable	Peak Governance RepRisk Index	Peak Environmental RepRisk Index	Peak Social RepRisk Index

	Tobit (1)	Tobit (2)	Tobit (3)
Religiosity Index	-2.383***	-0.278	0.647*
	(0.418)	(0.319)	(0.326)
Ln Total Asset	6.351***	6.759***	6.939***
	(0.236)	(0.229)	(0.217)
Return on Asset	-31.558***	-7.542**	-1.194
	(2.929)	(2.798)	(2.774)
Leverage	-2.720	7.862***	1.319
	(1.974)	(1.819)	(1.735)
Ln GDP Per Capita	-7.202***	-4.609***	-3.304**
	(1.268)	(0.959)	(1.008)
Legal Origin-Common	-3.678**	11.468***	3.868***
Law	(1.190)	(1.045)	(1.035)
Press Freedom Index	-0.304***	-0.171***	-0.253***
	(0.047)	(0.037)	(0.038)
Shareholder's Right Index	-3.340***	0.950	-0.532
	(0.695)	(0.555)	(0.567)
Constant	-17.276	-40.254**	-56.379***
	(16.552)	(12.806)	(13.427)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.068	0.075	0.054
Observations	17496	17496	17496

Table 4.5 shows both belief index and practice index have negative coefficients for governance and environmental component but positive coefficients for social component. Believe index has a significant coefficient only for the governance risk component. On the other hand, practice index only has a significant coefficient with the social component. Thus, religiosity specifically the belief index reduces risk by ensuring better governance. The social component of risk increases with religiosity specifically induced from practice. Both indices show no significant relation to the environmental component.

Among control variables, total assets have a positive coefficient and Press Freedom Index and per capita GDP have a negative coefficient consistently for all models. Although return on asset shows a negative coefficient significant at 1% level for governance and environmental component, the coefficient for the social component is not significant. Common law dummy shows a negative relation to the governance component but a positive relation to the social and environmental components. Common law origin countries are expected to have a better legal system to reduce governance risk. The shareholder right index shows a significant negative

impact on the governance component of risk only as more power of shareholders in major decision making would reduce the governance risk component.

Table 4.5: Component of RepRisk index with Belief and Practice Index

Dependent Variable	Peak Governance RepRisk Index		Peak Environmental RepRisk Index		Peak Social RepRisk Index	
	Tobit (1)	Tobit (2)	Tobit (3)	Tobit (4)	Tobit (5)	Tobit (6)
Religiosity Belief Index	-3.518***		-0.473		0.355	
	(0.485)		(0.373)		(0.381)	
Religiosity Practice Index		-0.926		-0.090		2.413***
		(0.742)		(0.570)		(0.581)
Ln Total Asset	6.345***	6.385***	6.757***	6.765***	6.930***	6.965***
	(0.236)	(0.237)	(0.229)	(0.229)	(0.217)	(0.217)
Return on Asset	-31.405***	-32.019***	-7.479**	-7.664**	-1.052	-1.432
	(2.927)	(2.930)	(2.799)	(2.797)	(2.776)	(2.771)
Leverage	-2.478	-3.464	7.908***	7.783***	1.445	1.159
	(1.973)	(1.975)	(1.820)	(1.818)	(1.735)	(1.732)
Ln GDP Per Capita	-8.437***	-2.856*	-4.867***	-4.113***	-4.085***	-1.888
	(1.239)	(1.241)	(0.953)	(0.926)	(0.997)	(0.977)
Legal Origin-Common Law	-2.516*	-6.255***	11.665***	11.157***	4.281***	3.436***
	(1.209)	(1.128)	(1.056)	(1.010)	(1.048)	(0.993)
Press Freedom Index	-0.356***	-0.139**	-0.182***	-0.153***	-0.280***	-0.207***
	(0.047)	(0.045)	(0.037)	(0.034)	(0.038)	(0.036)
Shareholder's Right Index	-3.998***	-1.273	0.814	1.194*	-0.898	0.074
	(0.692)	(0.666)	(0.557)	(0.532)	(0.569)	(0.543)
Constant	-1.958	-70.892***	-37.005**	-46.468***	-46.646***	-74.1***
	(16.210)	(16.354)	(12.723)	(12.441)	(13.299)	(13.107)
Year Dummy	Included	Included	Included	Included	Included	Included
Industry Dummy	Included	Included	Included	Included	Included	Included
Pseudo R^2	0.068	0.067	0.075	0.075	0.054	0.054
Observations	17496	17496	17496	17496	17496	17496

4.2 Robustness Test

For robustness, we conduct several tests. We use a logit model with a dummy for RepRisk Rating as our dependent variable. RepRisk rating is assigned on both firm risk exposure and country-sector average. Table 4.6 shows our overall religiosity index is not significant. While belief is negatively related at a 5% level, practice is positively related at .1% significance. This finding is similar to our main model as belief affect negatively to reputation risk governance while practice affects positively to social risk component.

Table 4.6: RepRisk Rating Dummy and Religiosity Index

Dependent Variable	RepRisk Rating Dummy Logit (1)	RepRisk Rating Dummy Logit (2)	RepRisk Rating Dummy Logit (3)
Religiosity Index	0.001		
	(0.037)		
Religiosity Belief Index		-0.101*	
		(0.041)	
Religiosity Practice Index			0.501***
			(0.083)
Ln Total Asset	0.535***	0.535***	0.539***
	(0.020)	(0.020)	(0.020)
Return on Asset	-1.235***	-1.229***	-1.269***
	(0.273)	(0.273)	(0.272)
Leverage	0.301	0.344*	0.209
	(0.165)	(0.165)	(0.166)
Ln GDP Per Capita	-3.235***	-3.439***	-2.497***
	(0.130)	(0.124)	(0.150)
Legal Origin-Common Law	-0.299**	-0.123	-0.656***
	(0.105)	(0.105)	(0.099)
Shareholder's Right Index	-0.148**	-0.224***	0.109
	(0.050)	(0.048)	(0.059)
Press Freedom Index	0.033***	0.029***	0.050***
	(0.005)	(0.005)	(0.006)
Constant	27.988***	30.344***	19.508***
	(1.491)	(1.414)	(1.729)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.607	0.607	0.608
Observations	17543	17543	17543

Tables 4.7, 4.8, and 4.9 show results using the current RepRisk index and its components. Current RepRisk is the annual average of the RepRisk index and components are calculated by multiplying the monthly RepRisk index with respective percentage. Current RepRisk ratings only represent last day of month index. As risk exposure can happen any day in the month this index does not represent whole month properly. Our results hold in all cases as earlier.

Table 4.7: Current RepRisk Index and Religiosity Index

Dependent Variable	Current RepRisk Index Tobit (1)	Current RepRisk Index Tobit (2)	Current RepRisk Index Tobit (3)
Religiosity Index	-0.364*		
	(0.149)		
Religiosity Belief Index		-0.755***	
		(0.174)	
Religiosity Practice Index			0.536*
			(0.266)
Ln Total Asset	4.626***	4.622***	4.642***
	(0.095)	(0.095)	(0.095)
Return on Asset	-6.88***	-6.775***	-7.148***
	(1.205)	(1.205)	(1.204)
Leverage	-1.106	-1.001	-1.330
	(0.798)	(0.798)	(0.798)
Ln GDP Per Capita	-3.170***	-3.748***	-1.761***
	(0.455)	(0.450)	(0.443)
Legal Origin-Common Law	2.168***	2.612***	1.368**
	(0.479)	(0.484)	(0.458)
Press Freedom Index	-0.152***	-0.174***	-0.101***
	(0.017)	(0.017)	(0.017)
Shareholder's Right Index	-0.808**	-1.104***	-0.151
	(0.258)	(0.259)	(0.248)
Constant	-10.080	-2.871	-27.511***
	(6.003)	(5.944)	(5.875)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.067	0.067	0.067
Observations	17543	17543	17543

Table 4.8: Current RepRisk Component Index and Religiosity Index

Dependent Variable	Current Governance RepRisk Index	Current Environmental RepRisk Index	Current Social RepRisk Index
	Tobit (1)	Tobit (2)	Tobit (3)
Religiosity Index	-1.010***	-0.076	0.263
	(0.202)	(0.146)	(0.158)
Ln Total Asset	3.784***	3.672***	4.089***
	(0.116)	(0.107)	(0.106)
Return on Asset	-14.795***	-4.137**	0.125
	(1.435)	(1.309)	(1.391)
Leverage	-2.428*	3.201***	-0.108
	(0.949)	(0.826)	(0.828)
Ln GDP Per Capita	-4.081***	-2.051***	-2.193***
	(0.608)	(0.438)	(0.485)
Legal Origin-Common Law	-1.551**	5.061***	1.675***
	(0.569)	(0.475)	(0.494)
Press Freedom Index	-0.177***	-0.075***	-0.146***
	(0.023)	(0.017)	(0.018)
Shareholder's Right Index	-1.775***	0.286	-0.659*
	(0.334)	(0.254)	(0.274)
Constant	-4.409	-20.390***	-20.750**
	(7.922)	(5.840)	(6.428)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.082	0.100	0.076
Observations	17543	17543	17543

Table 4.9: Current RepRisk Component Index with Belief and Practice Index

Dependent Variable	Current Governance RepRisk Index		Current Environmental RepRisk Index		Current Social RepRisk Index	
	Tobit (1)	Tobit (2)	Tobit (3)	Tobit (4)	Tobit (5)	Tobit (6)
Religiosity Belief Index	-1.692***		-0.170		0.067	
	(0.235)		(0.171)		(0.185)	
Religiosity Practice Index		-0.205		0.090		1.229***
		(0.354)		(0.260)		(0.279)
Ln Total Asset	3.779***	3.806***	3.671***	3.676***	4.083***	4.103***
	(0.115)	(0.116)	(0.107)	(0.107)	(0.106)	(0.106)
Return on Asset	-14.715***	-15.028***	-4.104**	-4.198**	0.204	-0.018
	(1.433)	(1.435)	(1.310)	(1.308)	(1.392)	(1.389)
Leverage	-2.296*	-2.805**	3.224***	3.165***	-0.037	-0.209
	(0.948)	(0.950)	(0.826)	(0.825)	(0.828)	(0.827)
Ln GDP Per Capita	-4.780***	-1.802**	-2.194***	-1.788***	-2.654***	-1.320**
	(0.595)	(0.591)	(0.435)	(0.422)	(0.480)	(0.468)
Legal Origin-Common Law	-0.938	-2.838***	5.161***	4.912***	1.931***	1.375**
	(0.578)	(0.539)	(0.480)	(0.458)	(0.501)	(0.473)
Press Freedom Index	-0.206***	-0.091***	-0.081***	-0.066***	-0.163***	-0.117***
	(0.023)	(0.021)	(0.017)	(0.016)	(0.019)	(0.017)
Shareholder's Right Index	-2.145***	-0.694*	0.212	0.412	-0.880**	-0.275
	(0.333)	(0.318)	(0.255)	(0.243)	(0.275)	(0.261)
Constant	4.285	-32.564***	-18.587**	-23.706***	-14.998*	-31.679***
	(7.766)	(7.776)	(5.804)	(5.665)	(6.374)	(6.246)
Year Dummy	Included	Included	Included	Included	Included	Included
Industry Dummy	Included	Included	Included	Included	Included	Included
Pseudo R^2	0.082	0.081	0.100	0.100	0.076	0.076
Observations	17543	17543	17543	17543	17543	17543

We also check robustness using an alternate measure for religiosity with the Welzel Disbelief Index which creates a scaled index of (0-1) for every country based on three questions regarding religion: the importance of religion, religious person, and attending religious service. A higher value of the index represents more disbelief thus less religiosity. Table 4.10 show results support our main model findings.

Table 4.10: Peak RepRisk Index and Welzel Disbelief Index

Dependent Variable	Peak RepRisk Index	Peak Governance RepRisk Index	Peak Environmental RepRisk Index	Peak Social RepRisk Index
	Tobit (1)	Tobit (2)	Tobit (3)	Tobit (4)
Welzel Disbelief Index	6.396*	23.284***	6.724	-10.582**
	(2.840)	(4.551)	(3.641)	(3.692)
Ln Total Asset	6.719***	6.359***	6.748***	6.947***
	(0.162)	(0.237)	(0.229)	(0.217)
Return on Asset	-11.764***	-31.473***	-7.313**	-1.401
	(2.042)	(2.931)	(2.802)	(2.774)
Leverage	0.207	-2.838	7.970***	1.205
	(1.380)	(1.975)	(1.819)	(1.734)
Ln GDP Per Capita	-4.898***	-7.148***	-5.495***	-2.349*
	(0.831)	(1.345)	(1.050)	(1.088)
Legal Origin-Common	4.020***	-4.928***	11.631***	3.874***
Law	(0.789)	(1.122)	(1.001)	(0.990)
Press Freedom Index	-0.231***	-0.317***	-0.207***	-0.213***
	(0.032)	(0.053)	(0.041)	(0.042)
Shareholder's Right	-0.785	-2.927***	0.628	-0.249
Index	(0.436)	(0.673)	(0.554)	(0.562)
Constant	-15.774	-28.442	-32.234*	-63.372***
	(10.019)	(15.972)	(12.676)	(13.191)
Year Dummy	Included	Included	Included	Included
Industry Dummy	Included	Included	Included	Included
Pseudo R^2	0.054	0.068	0.075	0.054
Observations	17543	17496	17496	17496

From Table 4.2 Panel A, we can see some countries have very small frequencies. Some country average show 0 value for component of risk. To address this nine countries, Morocco, Jordan, Ghana, Romania, Trinidad and Tobago, Cyprus, and Argentina with less than 50 firm year observations are excluded. Table 4.11 shows overall religiosity lose significance, but all other results remain similar.

Table 4.11: Peak RepRisk index and Religiosity index (Excluding Countries with small sample)

Dependent Variable	Peak RepRisk Index Tobit (1)	Peak RepRisk Index Tobit (2)	Peak RepRisk Index Tobit (3)
Religiosity Index	-0.416		
	(0.265)		
Religiosity Believe Index		-1.086***	
		(0.307)	
Religiosity Practice Index			1.567**
			(0.487)
Ln Total Asset	6.691***	6.686***	6.719***
	(0.162)	(0.162)	(0.162)
Return on Asset	-11.759***	-11.559***	-12.297***
	(2.046)	(2.045)	(2.044)
Leverage	0.160	0.359	-0.282
	(1.382)	(1.381)	(1.381)
Ln GDP Per Capita	-4.961***	-6.013***	-2.377**
	(0.804)	(0.796)	(0.785)
Legal Origin Dummy-	3.495***	4.291***	1.918*
Common Law	(0.859)	(0.865)	(0.830)
Press Freedom Index	-0.229***	-0.269***	-0.138***
	(0.029)	(0.030)	(0.028)
Shareholder's Right Index	-0.844	-1.384**	0.369
	(0.461)	(0.462)	(0.444)
Constant	-11.692	1.411	-43.612***
	(10.621)	(10.531)	(10.403)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	.0538191	.0539327	.0539068
Observations	17407	17407	17407

Table 4.12: Peak RepRisk component and Religiosity index (Excluding Countries with small sample)

Dependent Variable	Peak Governance RepRisk Index	Peak Environmental RepRisk Index	Peak Social RepRisk Index
	Tobit (1)	Tobit (2)	Tobit (3)
Religiosity Index	-2.303***	-0.086	0.883**
	(0.432)	(0.330)	(0.338)
Ln Total Asset	6.319***	6.744***	6.908***
	(0.236)	(0.229)	(0.217)
Return on Asset	-32.183***	-6.758*	-0.816
	(2.931)	(2.817)	(2.787)
Leverage	-2.602	7.857***	1.081
	(1.976)	(1.822)	(1.737)
Ln GDP Per Capita	-7.230***	-4.087***	-3.481***
	(1.303)	(0.982)	(1.036)
Legal Origin Dummy-	-3.835**	11.330***	2.839**
Common Law	(1.232)	(1.079)	(1.072)
Press Freedom Index	-0.301***	-0.159***	-0.257***
	(0.048)	(0.037)	(0.039)
Shareholder's Right Index	-3.342***	1.358*	-0.572
	(0.721)	(0.573)	(0.590)
Constant	-16.566	-47.271***	-53.587***
	(17.038)	(13.140)	(13.821)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.068	0.076	0.054
Observations	17360	17360	17360

Table 4.13: Peak RepRisk component and Religion belief and practice index (Excluding Countries with small sample)

Dependent Variable	Peak Governance RepRisk Index		Peak EnvironmentalRepRisk Index		Peak Social RepRisk Index	
	Tobit (1)	Tobit (2)	Tobit (3)	Tobit (4)	Tobit (5)	Tobit (6)
Religiosity Believe Index	-3.535*** (0.499)		-0.256 (0.382)		0.549 (0.391)	
Religiosity Practice Index		-0.159 (0.782)		0.262 (0.608)		3.231*** (0.621)
Ln Total Asset	6.312*** (0.236)	6.355*** (0.237)	6.742*** (0.229)	6.750*** (0.229)	6.899*** (0.217)	6.936*** (0.217)
Return on Asset	-32.036*** (2.929)	-32.694*** (2.931)	-6.687* (2.818)	-6.885* (2.816)	-0.635 (2.789)	-1.179 (2.782)
Leverage	-2.325 (1.974)	-3.462 (1.977)	7.906*** (1.822)	7.788*** (1.821)	1.238 (1.738)	0.852 (1.735)
Ln GDP Per Capita	-8.691*** (1.277)	-2.217 (1.275)	-4.363*** (0.975)	-3.630*** (0.950)	-4.394*** (1.026)	-1.762 (1.004)
Legal Origin Dummy-Common Law	-2.566* (1.248)	-6.748*** (1.176)	11.524*** (1.086)	11.054*** (1.050)	3.350** (1.080)	2.156* (1.036)
Press Freedom Index	-0.361*** (0.048)	-0.113* (0.046)	-0.170*** (0.037)	-0.143*** (0.035)	-0.290*** (0.039)	-0.202*** (0.037)
Shareholder's Right Index	-4.121*** (0.719)	-0.939 (0.690)	1.215* (0.575)	1.578** (0.550)	-1.007 (0.592)	0.173 (0.565)
Constant	1.585 (16.714)	-78.501*** (16.818)	-43.790*** (13.063)	-53.006*** (12.786)	-42.206** (13.706)	-75.084*** (13.493)
Year Dummy	Included	Included	Included	Included	Included	Included
Industry Dummy	Included	Included	Included	Included	Included	Included
Pseudo R^2	0.068	0.067	0.076	0.076	0.054	0.054
Observations	17360	17360	17360	17360	17360	17360

Our dataset has a significant proportion of data coming from the United States (37%). For robustness test, we exclude US firms and run our models. Table 4.12 show overall religiosity is no longer significant but believes and practice index still show significant and previous sign. Table 4.16 show religiosity belief is now significant and positively related to social risk component. Signs of coefficients remain consistent in all models and robustness tests.

Table 4.14: Peak RepRisk index and Religiosity index (Excluding US Data)

Dependent Variable	Peak RepRisk Index Tobit (1)	Peak RepRisk Index Tobit (2)	Peak RepRisk Index Tobit (3)
Religiosity Index	-0.412		
	(0.270)		
Religiosity Belief Index		-1.048**	
		(0.319)	
Religiosity Practice Index			1.111*
			(0.469)
Ln Total Asset	7.127***	7.111***	7.183***
	(0.216)	(0.216)	(0.217)
Return on Asset	-17.397***	-16.980***	-18.279***
	(3.113)	(3.111)	(3.108)
Leverage	-3.736	-3.517	-4.294
	(2.504)	(2.503)	(2.504)
Ln GDP Per Capita	-4.969***	-5.881***	-2.923***
	(0.789)	(0.781)	(0.770)
Legal Origin-Common Law	4.781***	5.224***	4.002***
	(0.932)	(0.935)	(0.920)
Press Freedom Index	-0.221***	-0.261***	-0.142***
	(0.031)	(0.031)	(0.028)
Shareholder's Right Index	-1.736*	-1.876**	-1.225
	(0.677)	(0.675)	(0.682)
Constant	-12.133	-2.156	-35.741***
	(10.609)	(10.480)	(10.600)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.054	0.054	0.054
Observations	11068	11068	11068

Table 4.15: Peak RepRisk component and Religiosity index (Excluding US Data)

Dependent Variable	Peak Governance RepRisk Index	Peak Environmental RepRisk Index	Peak Social RepRisk Index
	Tobit (1)	Tobit (2)	Tobit (3)
Religiosity Index	-1.901***	-0.252	1.150***
	(0.446)	(0.349)	(0.349)
Ln Total Asset	7.066***	6.879***	7.347***
	(0.316)	(0.305)	(0.299)
Return on Asset	-28.582***	-19.962***	-10.825*
	(4.619)	(4.082)	(4.264)
Leverage	-7.053*	-3.519	-0.302
	(3.571)	(3.254)	(3.230)
Ln GDP Per Capita	-6.781***	-4.676***	-3.271**
	(1.299)	(0.999)	(1.027)
Legal Origin Dummy-	-1.008	9.392***	4.290***
Common Law	(1.370)	(1.181)	(1.180)
Press Freedom Index	-0.253***	-0.205***	-0.231***
	(0.051)	(0.040)	(0.041)
Shareholder's Right Index	-5.889***	3.108***	-2.096*
	(0.986)	(0.885)	(0.864)
Constant	-14.949	-49.149***	-51.526***
	16.971	13.697	13.945
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.071	0.071	0.051
Observations	11045	11045	11045

Table 4.16: Peak RepRisk component and Religion belief and practice index (Excluding US Data)

Dependent Variable	Peak Governance RepRisk Index		Peak Environmental RepRisk Index		Peak Social RepRisk Index	
	Tobit (1)	Tobit (2)	Tobit (3)	Model (4)	Tobit (5)	Tobit (6)
Religiosity Belief Index	-3.115***		-0.537		0.981*	
	(0.524)		(0.414)		(0.412)	
Religiosity Practice Index		0.069		0.249		2.920***
		(0.762)		(0.599)		(0.602)
Ln Total Asset	7.043***	7.153***	6.871***	6.902***	7.323***	7.389***
	(0.315)	(0.317)	(0.305)	(0.306)	(0.298)	(0.299)
Return on Asset	-27.996***	-29.985***	-19.820***	-20.251***	-10.576*	-11.119**
	(4.615)	(4.612)	(4.082)	(4.081)	(4.267)	(4.254)
Leverage	-6.679	-8.193*	-3.493	-3.605	-0.100	-0.567
	(3.566)	(3.574)	(3.254)	(3.254)	(3.230)	(3.227)
Ln GDP Per Capita	-8.252***	-2.497*	-5.054***	-3.927***	-3.968***	-2.344*
	(1.276)	(1.256)	(0.995)	(0.965)	(1.019)	(0.996)
Legal Origin-Common Law	-0.255	-2.364	9.571***	9.102***	4.487***	4.145***
	(1.380)	(1.345)	(1.186)	(1.169)	(1.185)	(1.167)
Press Freedom Index	-0.321***	-0.079	-0.223***	-0.175***	-0.256***	-0.206***
	(0.051)	(0.047)	(0.040)	(0.037)	(0.041)	(0.038)
Shareholder's Right Index	-6.151***	-4.860***	3.069***	3.264***	-2.284**	-1.620
	(0.984)	(0.988)	(0.884)	(0.891)	(0.863)	(0.870)
Constant	1.179	-64.026***	-45.034***	-57.818***	-43.303**	-63.903***
	(16.635)	(16.904)	(13.568)	(13.619)	(13.787)	(13.885)
Year Dummy	Included	Included	Included	Included	Included	Included
Industry Dummy	Included	Included	Included	Included	Included	Included
Pseudo R^2	0.071	0.070	0.071	0.071	0.051	0.052
Observations	11045	11045	11045	11045	11045	11045

Table 4.2 Panel B show Public Administration has very high average risk index. This can happen as government firm and projects are more scrutinized by media. For robustness test, firms in this industry are excluded. Results in Table 4.17, 4.18 and 4.19 show signs and significance remain same as our main model.

Table 4.17: Peak RepRisk index and Religiosity index (Excluding Public Administration)

Dependent Variable	Peak RepRisk Index Tobit (1)	Peak RepRisk Index Tobit (2)	Peak RepRisk Index Tobit (3)
Religiosity Index	-0.690**		
	(0.258)		
Religiosity Believe Index		-1.294***	
		(0.301)	
Religiosity Practice Index			0.584
			(0.463)
Ln Total Asset	6.731***	6.728***	6.755***
	(0.164)	(0.164)	(0.164)
Return on Asset	-11.425***	-11.253***	-11.853***
	(2.046)	(2.045)	(2.045)
Leverage	0.615	0.776	0.251
	(1.383)	(1.382)	(1.382)
Ln GDP Per Capita	-4.646***	-5.490***	-2.487**
	(0.786)	(0.777)	(0.769)
Legal Origin Dummy-Common Law	4.964***	5.633***	3.684***
	(0.838)	(0.847)	(0.804)
Press Freedom Index	-0.221***	-0.254***	-0.143***
	(0.029)	(0.029)	(0.028)
Shareholder's Right Index	-0.657	-1.093*	0.3593163
	(0.448)	(0.448)	(0.432)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Constant	-17.090	-6.559	-43.801***
	(10.394)	(10.288)	(10.205)
Pseudo R^2	0.054	0.054	0.053
Observations	17400	17400	17400

Table 4.18: Peak RepRisk component and Religiosity index (Excluding Public Administration)

Dependent Variable	Peak Governance RepRisk Index Tobit (1)	Peak Environmental RepRisk Index Tobit (2)	Peak Social RepRisk Index Tobit (3)
Religiosity Index	-2.146***	-0.298	0.650
	(0.421)	(0.326)	(0.332)
Ln Total Asset	6.377***	6.811***	6.983***
	(0.240)	(0.233)	(0.220)
Return on Asset	-31.990***	-7.552**	-0.843
	(2.948)	(2.827)	(2.800)
Leverage	-2.481	8.133***	1.681
	(1.989)	(1.839)	(1.749)
Ln GDP Per Capita	-6.494***	-4.222***	-2.810**
	(1.281)	(0.978)	(1.025)
Legal Origin Dummy-	-3.566**	12.472***	4.651***
Common Law	(1.211)	(1.074)	(1.055)
Press Freedom Index	-0.279***	-0.154***	-0.237***
	(0.048)	(0.037)	(0.039)
Shareholder's Right Index	-2.878***	1.211*	-0.175
	(0.704)	(0.567)	(0.578)
Constant	-27.733	-47.141***	-64.903***
	(16.788)	(13.100)	(13.694)
Year Dummy	Included	Included	Included
Industry Dummy	Included	Included	Included
Pseudo R^2	0.067	0.075	0.053
Observations	17353	17353	17353

Table 4.19: Peak RepRisk component and Religion belief and practice index (Excluding Public Administration)

Dependent Variable	Peak Governance RepRisk Index		Peak Environmental RepRisk Index		Peak Social RepRisk Index	
	Tobit (1)	Tobit (2)	Tobit (3)	Tobit (4)	Tobit (5)	Tobit (6)
Religiosity Believe Index	-3.221***		-0.481		0.379	
	(0.489)		(0.381)		(0.387)	
Religiosity Practice Index		-0.605		-0.152		2.367***
		(0.751)		(0.584)		(0.594)
Ln Total Asset	6.370***	6.414***	6.809***	6.816***	6.974***	7.007***
	(0.240)	(0.241)	(0.233)	(0.233)	(0.220)	(0.220)
Return on Asset	-31.824***	-32.471***	-7.492**	-7.672**	-0.702	-1.076
	(2.946)	(2.947)	(2.827)	(2.825)	(2.802)	(2.796)
Leverage	-2.248	-3.195	8.174***	8.057***	1.801	1.524
	(1.987)	(1.989)	(1.840)	(1.838)	(1.749)	(1.747)
Ln GDP Per Capita	-7.711***	-2.288	-4.454***	-3.755***	-3.551***	-1.456
	(1.253)	(1.256)	(0.971)	(0.944)	(1.014)	(0.995)
Legal Origin Dummy-Common Law	-2.470*	-5.966***	12.650***	12.174***	5.033***	4.257***
	(1.230)	(1.150)	(1.084)	(1.038)	(1.067)	(1.014)
Press Freedom Index	-0.330***	-0.120**	-0.163***	-0.136***	-0.264***	-0.1930***
	(0.047)	(0.045)	(0.038)	(0.035)	(0.039)	(0.037)
Shareholder's Right Index	-3.526***	-0.880	1.087	1.444**	-0.523	0.403
	(0.701)	(0.675)	(0.569)	(0.543)	(0.580)	(0.554)
Constant	-12.587	-79.727***	-44.212***	-53.015***	-55.646***	-81.867***
	(16.450)	(16.602)	(13.018)	(12.727)	(13.562)	(13.380)
Year Dummy	Included	Included	Included	Included	Included	Included
Industry Dummy	Included	Included	Included	Included	Included	Included
Pseudo R^2	0.068	0.067	0.075	0.075	0.053	0.054
Observations	17353	17353	17353	17353	17353	17353

4.3 Discussion & Implication

Our results strongly suggest country-level religiosity does reduce firm reputation risk. Religiosity affects the governance component negatively while the social component positively. The impact on the environmental component is not significant in any of the models. Specifically, religiosity measured by belief has a negative relation specifically with the governance component of RepRisk. In their study, Barro and McCleary (2003) report that belief in hell is positively associated with economic growth while attending religious service is negatively related. They argued belonging to a group comes from belief rather than practice. Our results are in line with their finding. Believe in God, hell, and the importance of religion are sufficient to create a feeling of belonging and encourage people to behave in more ethical way. Similar to previous studies reporting religiosity deter the unethical and questionable financial practice, our result show religiosity reduce risk only by reducing governance risk exposure. On contrary, the positive impact of religiosity on social risk can be attributed to the fact that religiosity is positively linked to racist behavior, discrimination toward minority, and adversity to working women (Chuah, Gächter, Hoffmann & Tan, 2016; Emerson & Smith, 2001; Guiso et al, 2003). These discriminative behavior increases with practice dimension of religiosity (Bloom, 2012). Our results are robust for change to dependent variable reputation risk measure and alternate measure of religion as well. We also exclude US firms to check whether the high volume of one country data drives our result.

Among firm-level controls, total asset representing size is positive and significant proving indices are biased against large firms for their visibility and higher expectation. Return on asset representing performance shows a negative relation to the overall risk index. It is not significant to social components representing performance have no relation to this. Results suggest firms in a more economically developed country have less reputation risk. Due to the construction of the RepRisk index, the level of freedom of media has a positive relation to risk news. The legal origin dummy has a negative relation to governance risk but positive to overall risk index. Similarly, Shareholder Right Index has a negative relation to governance risk but not significant to other cases.

While many previous studies relate the level of religiosity to overall risk, our study reports specific channels. These findings help better understand the RepRisk index and its use in

decision making. It is important to notice determinants have varying impacts on the environmental social and governance component of risk. Dimension of religiosity also have strong implications in the result. Our findings are relevant for managers formulating strategy for ESG risk management. Country level factors need to be properly addressed in ESG risk management.

As ESG analysis is being incorporated in security valuation, it is important to address how country-level factors affect these measures. Specifically, religiosity is an important indicator of better corporate governance. ESG based valuation should incorporate country level variation properly.

5: Conclusions

This study investigate relationship between country-level religiosity and firm ESG reputation risk. Similar to previous studies, our results support the notion that regional religiosity reduce firm risk. In case of ESG reputation risk, we find religiosity only reduce governance risk. Mainly ethical behavior induced from religiosity can be attributed to this result. The impact of religiosity on environmental risk is not significant. In contrary, social risk tends to increase to some extent with religiosity. Social discrimination towards minorities and adversity towards working women rises with more religiosity. It can be argued that people do not view environmental and social risk issues at similar level as governance risk issues from ethical viewpoint. Dimension of religiosity also show varying impact on risk. Belief and affection for religion is sufficient to promote ethical practice. On the other hand, with more institutional practice people tends to be less tolerant to opposing belief and foster discrimination towards minorities. Our control variables also provide some interesting outcome. Firm performance measured by accounting return is negatively related to governance and environmental risk but not significant to social risk. Common law origin countries and countries with higher shareholder right index have lower governance risk.

We need to be careful in explaining results as RepRisk index only includes the negative news surfaced to people. This appropriately measures threat to reputation rather than reputation itself. Our findings can help to better understand reputation risk. Risk management strategies need to carefully address country level differences. ESG based valuations can improve by incorporating country level factors. By analyzing impact of religiosity controlling for firm level and country level variables we believe we have contributed to literature on religion and ESG risk. Future research can advance by analyzing other dimension of reputation and religiosity.

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